

CLAIMS

What is Claimed is:

1. A display comprising:

5 a display panel provided with scanning lines, signal lines located to intersect the scanning lines, and sub-pixels connected to the signal lines;

a source driver, whose output terminals are each connected to an associated one of the signal lines, for driving the sub-pixels; and

a controller for supplying a control signal to the source driver,

10 wherein given that n is an integer of two or more, the polarity of an output voltage supplied from each output terminal is switched relative to a common voltage in every n horizontal scanning periods, and the timing of switching of the polarity of the output voltage is shifted by one horizontal scanning period for each frame.

15 2. The display of Claim 1,

wherein the source driver has a polarity shift circuit to which a polarity switching signal for controlling the switching of the polarity of the output voltage is inputted, and which outputs the polarity switching signal by shifting the signal by one horizontal scanning period for each frame.

20

3. The display of Claim 1,

wherein the controller has a source driver signal generating circuit comprising: an n line inverting circuit for generating a polarity switching signal for controlling the switching of the polarity of the output voltage; and a polarity shift circuit for outputting the
25 polarity switching signal by shifting the signal by one horizontal scanning period for each

frame.

4. The display of Claim 1,

wherein the source driver further has electrical charge recovering means that is
5 provided between two of the output terminals, and is controlled so as to short-circuit at
least the two output terminals for a certain period of time in n horizontal scanning periods.

5. A method for driving a display comprising: a display panel having scanning
lines, signal lines located to intersect the scanning lines, and sub-pixels that are connected
10 to the signal lines and arranged in a matrix pattern; and a source driver, whose output
terminals are each connected to an associated one of the signal lines, for driving the
sub-pixels, the display being driven by employing an n line dot inversion drive scheme
given that n is an integer of two or more,

wherein the method comprises the steps of:

15 a) supplying, from each output terminal of the source driver, an output voltage
whose polarity is switched for every n lines; and

b) shifting the timing of switching of the polarity of the output voltage from each
output terminal line by line for each frame.

20 6. The method of Claim 5,

wherein the waveform of the output voltage of each output terminal is changed in
 $2n$ ways for each frame, and is restored in a cycle of $2n$ frames.

7. The method of Claim 5,

25 wherein the source driver further has electrical charge recovering means provided

between two of the output terminals, and

wherein given that n horizontal scanning periods are defined as one cycle, the method further comprises the step of controlling the electrical charge recovering means so that at least the two output terminals are short-circuited for a certain period of time when
5 the polarities of the two output terminals are both switched.

8. A method for driving a display comprising: a display panel having scanning lines, signal lines located to intersect the scanning lines, and sub-pixels that are connected to the signal lines and arranged in a matrix pattern; and a source driver, whose output
10 terminals are each connected to an associated one of the signal lines, for driving the sub-pixels, the display being driven by employing an n line dot inversion drive scheme given that n is an integer of two or more,

wherein the method comprises the steps of:

a) supplying, from each output terminal of the source driver, an output voltage
15 whose polarity is switched for every n lines; and

b) changing the waveform of the output voltage of each output terminal in $2n$ ways for each frame, and restoring the waveform in a cycle of $2n$ frames.

9. The method of Claim 8,

20 wherein the source driver further has electrical charge recovering means provided between two of the output terminals, and

wherein given that n horizontal scanning periods are defined as one cycle, the method further comprises the step of controlling the electrical charge recovering means so that at least the two output terminals are short-circuited for a certain period of time when
25 the polarities of the two output terminals are both switched.